



# International Aviation Conference Meets In Chicago

## Pattern For Global Air Traffic And Interim Council On Agenda

Representatives of 56 countries including the United States will assemble in Chicago, November 1, for the International Civil Aviation Conference to lay the base for integrated world-wide aviation.

Many of the problems to be solved are of a highly technical nature and the Civil Aeronautics Administration is preparing data to aid in this particular field with the realization that the success of the entire program will rest largely on this phase of the Conference.

Spokesmen from the nations involved will each present his country's particular needs and position as it is related to the over-all plan.

**Suggest Interim Council**—The State Department in calling the Conference recommended arrangements be made for the immediate establishment of provisional world air routes, and services which will operate during the transitional period. The proposal also is made that an interim council with subordinate committees to function prior to the peace be set up by the Conference.

Through this council the data of practical experience obtained during the transition period could be collected, recorded and studied, and further recommendations for improving international air transport arrangements could be made in the light of that experience. Such a council, operating through working committees could likewise recommend future action with respect to technical standardization and uniform procedures.

The Conference also will discuss the principles and methods to be followed looking toward the adoption of a new over-all air convention.

As the date for the Conference neared, William A. M. Burden, Assistant Secretary of Commerce, in his address before the American Association of Port Authorities called attention to some of the problems for which solutions will be sought. Among others to which he referred were:

"The problems the Conference will tackle fall into two main categories, the technical and the political. The technical problems are more complex, yet it will probably be easier to reach agreement on them because technical men realize they have a common

interest in promoting a smoothly functioning system of international airways. If we can keep before us our common interests, rather than our differences, we may prove just as successful in reaching agreement on such hotly debated subjects as the degree of international control of the economic side of international air transport operations.

"The need for international standardization on the technical side is fairly obvious when one considers the difficulties that would confront a pilot crossing Europe if the countries over which he flew used different systems of radio aids operating on different frequencies, or varying methods of presenting weather information and different rules for approaching airports."

(Full text of Mr. Burden's speech may be obtained from the CAA Journal, Washington 25, D. C.)

The Conference agenda covers:

### I. Transitional Period

Establishment of air transport services on a provisional basis.

1. Arrangements for routes and services to operate during a transitional period.

2. Drafting of agreements to implement the provisional route pattern and to guide operations during transitional period as follows: (a) Landing and transit rights to permit establishment of provisional air services as soon as possible. (b) Right of technical or non-traffic stop. (c) Application of cabotage. (d) Use of public airports and facilities, on a non-discriminatory basis. (e) Frequency of operations. (f) Bona fide nationality of air carriers. (g) Control of rates and competitive practices.

3. Arrangements for and selection of continuing Committee on Air Transport to serve during the transitional period.

### II. Technical Standards and Procedures

1. Recommendations for setting up and adopting standards and procedures in the following fields: (a) Communications systems and air navigation aids, including

ground markings. (b) Rules of the air and traffic control practices. (c) Standards governing the licensing of operating and mechanical personnel. (d) Airworthiness of aircraft. (e) Registration and identification of aircraft. (f) Collection and exchange of meteorological information. (g) Logbooks and manifests. (h) Maps. (i) Airports. (j) Customs procedure.

2. Arrangements for and selection of a Technical Committee and subcommittees to serve during transitional period, and to draft definitive proposals for submission to the interested governments.

(See Conference, page 117)

## War Changes Permit Start of New Service

Three carriers are benefited by the changing fortunes of war as recent orders of the Civil Aeronautics Board permit inauguration of air services held up until now because "the national defense required that inauguration be delayed".

Braniff Airways has opened service to Austin, Texas. National Airlines now is flying through service from Jacksonville, Florida to New York City, and Transcontinental and Western Air is serving Morgantown, West Virginia.

Last February when the Board awarded National service between Jacksonville and New York it decided the extension would provide a small carrier with access to important traffic producing centers of the North.

When in November 1943 the Board approved Braniff's Austin-Houston service it concluded there was need for direct air service between Houston and Austin and that Braniff could serve Austin by adding only 43 miles to its route 50.

Last March, in awarding TWA Morgantown, the Board found that the city would generate a substantial volume of traffic and that the operations could be conducted without financial burden to the Government or the carrier. However, Member Edward P. Warner, disagreed with the rest of the Board claiming Morgantown's need was primarily local service and that the national pattern of local service should be studied first; that the issues of such service should not be disposed of piecemeal.

# CAA Issues Regulations Governing Distribution of Aviation Gasoline

Rationing of all 73 and 80-octane gasoline to private planes now is being handled by the Civil Aeronautics Administration. A WPB directive dated September 14, transferred this authority from the OPA.

Rationing will be supervised by CAA inspectors, whose normal duties require them to visit all airports regularly. It does not involve coupon rationing, for allotments will be made to airports and will be distributed by the operators in accordance with standards established by the CAA.

Following are the regulations governing the distribution and use of aviation gasoline adopted by the Administrator on September 16, 1944.

## Definitions

(a) "Aviation gasoline" means any finished petroleum product used in aircraft or aircraft engines, having a knock rating of 86 octane number or lower when tested by the ASTM Aviation Method (ASTM Designation D-614-43T) or a knock rating of 85 octane number or lower when tested by the ASTM Motor Method (ASTM Designation D-357-43T), including but not limited to aviation gasolines of 73 octane number and 80 octane number hereinafter defined.

"73 Octane Number" shall include all gasoline which, after the addition of not more than 1.0cc Tetraethyl Lead per U. S. gallon, has a knock rating of not less than 73 Octane Number by the ASTM Aviation Method (ASTM Designation D-614-43T) or a knock rating of not less than 72 Octane Number by the ASTM Motor Method (ASTM-D-357-43T), and which meets, in all other respects, the quality requirements imposed by Army-Navy Aeronautical Specification AN-F-23 and Amendment One dated October 19, 1943, for Grade 73 aircraft engine fuel.

"80 Octane Number" shall include all gasoline which, after the addition of not more than 2.00cc Tetraethyl Lead per U. S. gallon, has a knock rating of not less than 80 Octane Number by the ASTM Aviation Method (ASTM Designation D-614-43T) or a knock rating of not less than 79 Octane Number by the ASTM Motor Method (ASTM-D-357-43T), and which meets, in all other respects, the quality requirements imposed by Army-Navy Aeronautical Specification AN-F-24 and Amendment One dated October 19, 1943, for Grade 80 aircraft engine fuel.

(b) "Person" includes any individual, partnership, association, business trust, government or government agency or any organized group or persons, whether incorporated or not.

(c) "Consumer" means any person acquiring aviation gasoline for use in an aircraft engine.

(d) "Aircraft" means any contrivance now known or hereafter invented, used, or designed for navigation of or flight in the air, and "aircraft engine" means an engine used or intended to be used for propulsion of aircraft.

## Distribution and sale

(a) No manufacturer, wholesaler, or distributor of aviation gasoline shall deliver or cause to be delivered any such gasoline to any consumer (excluding Army, Navy, Marine Corps or Coast Guard of the United States, or any other agencies or other persons to the extent to which they require such gasoline for export to and use in any foreign country) or retail vendor without securing evidence of written permission from the Administrator of Civil Aeronautics or his duly authorized representatives.

(b) No retail vendor shall sell, transfer, deliver or dispose of any aviation gasoline except into the tank of an aircraft or of an aircraft engine test stand. Until 12:01 A. M. November 1, 1944, any civilian user of such aviation gasoline shall surrender to the retail vendor appropriate ration coupons issued by the Office of Price Administration.

## Use of aviation gasoline

No civil pilot or operator of civil aircraft shall use or permit the use of aviation gasoline except in an aircraft or aircraft engine for the following purposes:

- pilot training;
- transportation of persons and cargo;
- maintenance of pilot skill and aircraft and aircraft engine airworthiness; and
- commercial flying, including charter operations, crop dusting, aerial seeding, soil conservation, forest patrol, power line and pipe line inspection, police missions, and similar essential activities: *Provided*, That such gasoline shall not be used for barnstorming, sightseeing and pleasure flights, and similar non-essential activities.

## Reports and records

The manufacturer, wholesaler, distributor, retail vendor and consumer of aviation gasoline shall execute, keep, and transmit such records pertaining to the disposition and consumption of such gasoline as the Administrator may prescribe.

## Penalties

Any person who violates any rule or regulation herein prescribed or any order or instruction issued pursuant thereto by the Administrator or his duly authorized representative may be deprived of further aviation gasoline allotments and shall be subject to such penalties as are prescribed by law.

## Effective date

All sections of this part shall become effective immediately, except (a) under "Distribution and sale of aviation gasoline," which shall become effective 12:01 a.m. November 1, 1944.

## Conversion Instructions For Military Aircraft

So that military aircraft released to the commercial airlines will conform to CAA safety standards, the Air Carrier Division has issued conversion instructions to its field personnel.

The proper method of determining the condition of the aircraft, its engines, propellers, instruments, accessories, etc., is described in Safety Regulation Instruction No. 177, and the need of conducting a rigid detailed overhaul inspection is stressed.

Arrangements have been made, it is revealed, between the military services and the CAA whereby the Air Service Command will honor requisitions from air carrier operators for parts which they cannot obtain from other sources.

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INFORMATION  
AND STATISTICS



## Cost, Market Survey Shows Future for Airborne Produce

How an all-cargo airline, operating on a contract carrier basis, might develop a substantial business in hauling such perishables as fruits and vegetables is demonstrated in a recent report by the U. S. Department of Agriculture and the Edward S. Evans Transportation Research in Washington.

The idea of an all-cargo airline, the report points out, is "an entirely new one" and would permit relatively lower operating costs and greater flexibility in following seasonal shifts of growing areas than the passenger, mail and express type of service.

**From Farm to Market**—Using lettuce, a year-around favorite and staple on the American table, as the subject in the cost-analysis and marketing study, the report finds that agricultural commodities can be shipped from the West Coast producing areas to Eastern consuming centers at less than 6.55 cents a ton-mile. On the back-haul manufactured goods can be flown from Detroit to San Francisco at 9.08 cents a ton-mile or 10.06 cents a pound. The plane-mile cost of the hypothetical contract carrier service described would be approximately 58 1/4 cents.

These figures, the report cautions, should not be taken as rates. They merely indicate the estimated cost of such services in the postwar period. The figures are based on the operation and cost of the proposed contract carrier airline, and do not pertain to passenger, mail and express service.

**Test Shipments**—It was shown that a bulky, low-value perishable food like lettuce can be flown from the Salinas-Watsonville growing area in California, the single largest producing area of lettuce in the country, to the consuming markets in Detroit and nearby cities such as Chicago, Cleveland, Milwaukee, Pittsburgh, and Toledo, for approximately 3 1/4 cents more

(See Market Survey, page 116)

CIVIL AERONAUTICS JOURNAL

## Reconversion Plans For Aviation Industry Outlined by Burden

Disposal of surplus planes and plants, termination of contracts and continued research and development were named by Wm. A. M. Burden, Assistant Secretary of Commerce, in a recent New York speech, as the most serious reconversion problems facing the aviation industry.

In discussing the steps which must be taken to secure constructive handling of the industry's return to a normal peacetime level, Mr. Burden pointed out a number of solutions which have already been offered by the government and remain only for public acceptance.

The number of military transports which can be converted to peacetime use likely will be two or three times the probable market. To keep this surplus from destroying the market, these aircraft might be made available either on a lease or contract basis, the arrangement to be cancelled at any time the buyer is in a position to purchase a new plane.

A large proportion of the aviation plants were built for war purposes. Those not needed for aircraft production or by other industries might be kept in "stand-by" condition as a defense measure.

The industry's reports show that its working capital is just sufficient to permit operations to continue on the present scale for two or three weeks after termination. Contracts should be terminated in an efficient and prompt manner.

Fundamental new inventions, such as jet propulsion, have entered the aviation field for the first time in nearly two decades. To make certain that America leads in these new developments, research departments in both the industry and the government must receive financial support.

Finally, the nation must adopt a policy to encourage flying in both regularly scheduled transport and in personal planes.

## CAA Sends Men to Aid Brazilian Air Traffic

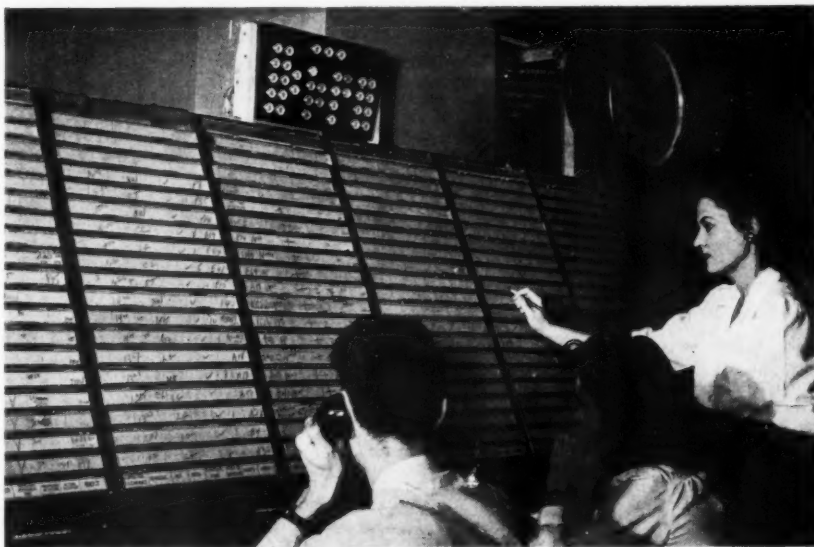
Aircraft manned by American pilots flying into and out of Brazilian airports which are used extensively by American craft will be controlled by experienced Civil Aeronautics Administration tower personnel it is announced. This detail is being undertaken at the joint request of the Army Air Forces, the Navy, and the Brazilian Government, and will continue for the duration.

One group of five men, under the supervision of Victory J. Kayne, Assistant Chief of the Airport Traffic Control Section of the CAA, is already en route to assume diverse duties at Santa Cruz, Recife, and Bahia.

At Santa Cruz, the CAA will supervise operation of the tower which is now functioning with Brazilian personnel. At Recife, there will be general advisory work to the Commander of the 4th Fleet of the United States Navy and the Brazilian government in connection with airway and airport control of air traffic. The Brazilian Air Group is planning to install a complete system of airways patterned on those developed by the CAA. The tower at Bahia will be staffed by CAA men in place of U. S. Army Air Forces personnel who have been doing the work until now.

OCTOBER 15, 1944

## A Glance at New Signal Device Tells Controllers What the Weather's Like



The weather indicator is shown at the top of the flight progress board

A lighted signal board, devised by personnel of the Washington, D. C. air traffic control center, now flashes local weather conditions so that all controllers can spot them at a glance without having to leave their stations.

Heretofore the time consuming practice of leafing through teletype dispatches were followed. The new device should speed up considerably the work of controllers who are working at top speed when the weather is bad and all traffic on the airways must be carefully shepherded.

The indicator was developed at the suggestion of James E. Ryan of the Washington center. It consists of a box on the face of which are several small lenses, each bearing standard weather code symbols. One box is mounted above each section of the traffic control board. When the proper lenses are

lighted up from inside the box, the current weather conditions at that station are immediately and easily legible. General conditions at the station are given by a trio of lights at the top of the box, indicating contact flying conditions with the letter C, instrument conditions with the letter N and closed conditions with the letter X.

To set these lights, the operator in the traffic center uses a rotary switch. Actually, they could be operated from the Weather Bureau offices even from a distance. In actual operation, there would be a box with similar lenses over each of the stations from which the operator could tell at a glance the local weather.

Further experimentation will be conducted, CAA officials have said, to determine whether the indicator will be made standard equipment in every control center.

## CAB Reports Available

The following opinions may be obtained from the Superintendent of Documents, Government Printing Office, Washington 25, D. C. The first 4 listed complete the advance sheets printed for Vol. III. As soon as the bound volume containing these 61 reports of the Civil Aeronautics Board is available a notice will be carried in the Journal. The "Continental Air Lines" case is the first opinion of Vol. IV.

Opinion 58—"Eastern Air Lines, Inc., Mail Rate proceeding", Docket 335. Price 10 cents.

Opinion 59—"American Airlines, Inc., Mail Rate Proceeding", Docket 334. Price 5 cents.

Opinion 60—"Ackerman Air Service Et Al. Alaska Air Transportation Investigation", Docket 71-401-E-1. Price 20 cents.

Opinion 61—"Pacific Alaska Airways, Inc. (Now Pan American Airways, Inc.) Certificate of Public Convenience and Necessity", Docket 10-401(E)-1. Price 5 cents.

Opinion 1—"Continental Air Lines, Inc. Et Al. Denver-Kansas City Service", Docket 2-401-B-4. Price 10 cents.

## Heavy Pacific Air Traffic Calls for New Ninth Region

A new regional office—the Ninth—with headquarters at Honolulu, has been set up by the CAA. The Sixth Region previously had jurisdiction over this area which includes the Territory of Hawaii and the Pacific Ocean area not within the boundaries of the Eighth Regional Office in Alaska.

A heavy increase, and an anticipated further expansion of air traffic, made the establishment of the new region necessary. It will function with the same facilities proven to be of such great benefit to civilian and military aviation.

Creation of this new region follows nearly a year of the partially secret service of a CAA traffic control center at Honolulu. Manned by civilians late in 1943, this center has been handling traffic control for all aircraft westbound from California and its assistance has meant the difference between life and death to many military pilots on the long flight from the mainland to Hawaii and those flying from South Pacific points to Hawaii.



# CAA Queries State and City Officials On Feasibility of Uniform Zoning Laws

Expert opinion on standard State laws for zoning airport approaches against erection of obstructions has been sought by the CAA through a conference with State and city officials. At a meeting September 29 representatives of several cities and states met in Washington to discuss numerous detailed questions propounded by the CAA.

The National Institute of Municipal Law Officers collaborated with the CAA in drafting a proposed standardized state airport law, and CAA believes improvements might be made pending its further consideration by the State governments.

Believing its subscribers might like to give their views on the problem, the Journal has outlined below the questions which were submitted for the consideration of these officials. Letters should be addressed to The Editor, Civil Aeronautics Journal, Ref. A-250, CAA, Washington 25, D. C.

1. Should airport zoning power be placed in political subdivisions or in an agency of the State? Is there any way to ensure the adoption of airport zoning regulations in all cases in which approach protection is necessary? to prevent the adoption of inadequate regulations?

2. Should a political subdivision be permitted to adopt regulations protecting those portions of the approaches of its airport which are located outside its territorial limits, where the airport itself is located wholly within such limits?

3. Should coverage be extended to airports other than those publicly owned? Do you think State police power should be used to protect the approaches of: a privately-owned and used airport? an airport which is privately owned but available to the public? a military airport? Must an airport be publicly owned to be a public utility?

4. Do you favor a regulation requiring that property near an airport be used only for agricultural purposes?

5. Would you approve of a provision which forbids interference with non-conforming structures or uses except where 80% deteriorated or abandoned? Are you aware of any circumstances in which the removal of an airport hazard could be compelled by regulation without compensation?

6. Should a landowner be compelled to mark and light an existing hazard at his own expense? or merely permit such installation by the zoning agency at its expense?

7. Does an airport zoning regulation forbidding a landowner to build above a certain height give the public the right to fly across his land above that height despite resulting interference with the use and enjoyment of the property? if not, should police power be permitted to deprive private landowners of their right to object to low-flying as a nuisance?

8. Would it be possible and desirable to authorize the adoption of regulations as onerous to the property owners affected as is necessary to provide the necessary approach protection? even though such regulations, in some of their applications, would be in violation of the 14th amendment to the Federal Constitution and the State Constitution if no compensation was given?

9. Should political subdivisions be permitted to remove airport hazards which are extremely dangerous without first complet-

ing condemnation proceedings? determining the amount to be paid owners until a later date?

10. Are the following requirements essential to ensure due process of law: that variances be granted in cases of practical difficulty or unnecessary hardship? that airport zoning regulations be administered by two agencies, an administration agency and a Board of Appeals, each having its own distinct functions?

11. Should a zoning board be created to recommend airport zoning regulations to the legislative body of the political subdivision or the joint board representing two or more political subdivisions which created it? should this zoning board act also as the Board of Appeals?

12. Should provisions adopted by a political subdivision for the protection of its airport prevail in the event of conflict between such regulations and any other zoning regulations?

## 3-Dimensional Films To Speed Training Of Airways Workers

Three-dimensional drawings, both slides for projection and prints for individual study, are to be used in the new speed-up employee training program of CAA's Federal Airways Service.

A typical drawing, viewed through special glasses, gives the impression of width and depth of the airway at a radio range station. The course "legs" of the station appear as corridors down which little planes seem to be moving. The "cone of silence," marking the zone directly over the station, looks like a transparent inverted cone. In the background a hilly landscape rises. At a glance trainees thus assimilate a concept of radio range characteristics which they otherwise would find difficult to appreciate except by actual flying experience.

Federal Airways for some time has conducted a comprehensive training program, aimed at providing replacements for personnel lost to the armed forces as well as meeting the need for additional technicians rising out of growth of airway traffic. This program, besides serving the interest of the air traffic control, communications, engineering and signals divisions, has turned out skilled men and women for both the Army and Navy.

A new emphasis is being placed on the airways training with the addition of audio-visual aids such as the three-dimensional drawings and an improved version of the sound-synchronized Kodachrome strip film "A Typical Flight". This latter aid illustrates the airways service provided on a flight between Washington and New York City.

A new approach also is being taken in the program. It will be centralized and operated from Washington under the direct supervision of Thomas B. Bourne, Director of Federal Airways Aids, developed in the Washington office and will be sent to each training point.

The depth drawings have been developed by John Sebastian, Federal Airways Visual Aids Specialist.

## World Airship Service

U. S. Airships, Inc., located in the Nation's Capital and incorporated under the laws of Delaware, has filed an application with the Civil Aeronautics Board proposing round-the-world airship service.

If approved, rigid airships of 10,000,000 cubic foot capacity of conventional design would provide passenger service from Washington, D. C., to such points as Buenos Aires, Rio de Janeiro, Calcutta, Dakar, Capetown, Zanzibar, Moscow, Glasgow, Brisbane and Darwin, Australia, Los Angeles, Honolulu and Chungking.

Back in 1929, Germany's 3,708,000 cubic foot capacity "Graf-Zeppelin" made the first "round-the-world" voyage and later in 1936 the 7,063,000 cubic foot Hindenburg inaugurated the first Germany-U. S. commercial airship service. The largest rigid airships built in the U. S. were the Navy's Akron and Macon—both with 6,500,000 cubic foot capacity.

## Market Survey

(Continued from page 114)

per pound net than the surface transported lettuce. In the four test shipments made via air express over TWA, the airborne lettuce sold readily although it cost the buyer 5 cents more a head.

No consumer education or special exploitation was used to push the sale of this airborne produce. The eye appeal of the airborne lettuce, due to its superior freshness and greenness, was such that, despite its higher price, it sold in equal quantities with the other variety.

**Cuts Handling Costs**—Savings made possible by air transport, according to the report, are packing without ice, lower handling costs, less bruising in transit and consequent waste, greater yield per acre since fewer lettuce leaves need to be removed from each head. Also vitamin content is greater when time in transit from field to store can be cut from eight days to approximately 24 hours. The lettuce lasts longer and remains attractive while on display in the store.

Lowered costs are likely after the war, the report points out, by use of lighter and more efficient shipping containers; new non-stop airways between distant cities, and airplanes designed specifically for hauling commercial cargoes.

Operating cost figures given in the study are based on the regular operation of a contract carrier airline using eight Douglas C-54A "Skymaster" cargo planes. Capacity loads of lettuce and other perishables were planned for each West-to-East trip, and three-quarter capacity freight loads of mostly manufactured goods for the return hauls. Figures on the operating schedules, routes, approximate cost and probable shippers are outlined in detail in the report. All estimated cost data applies with only minor adjustments, to cities within approximately 300 miles of Detroit.

The report is entitled "Postwar Air Transport Costs and Markets for Lettuce." An earlier similar report deals with the postwar air transportation of fresh strawberries and tomatoes from Florida to Detroit. Copies of these reports may be obtained from Edward S. Evans, President, Evans Products Co., 15310 Fullerton Ave., Detroit, Mich.

## CAA Official Compares Physical Standards of Civil and Military Airmen

Aviation medicine, from the time it was known as "mountain sickness," has been traced by Dr. A. J. Herbolsheimer of CAA's Medical Division for the College of Medicine of the University of Illinois.

In comparing military and civil aviation medicine, he claims military medicine resolves itself into two functions—pilot selection and pilot maintenance. In selection, the armed forces are in a position to be quite arbitrary in the application of their standards and may accept or reject as they please. Furthermore, physical requirements are rigid or relaxed as the needs dictate and because military pilots are under daily control, they may be dismissed from further flying duty at any time if an error has been made in selection, he says.

The problem is much more complex in civil aviation, according to Herbolsheimer, because while the medical examiner is not considered an agent nor an official of the government and therefore cannot be guilty of misfeasance nor malfeasance, he is a private physician whose examination reports the CAA will accept.

He believes that in certifying civil airmen we must regard the physical standards as a level at which there is no valid physical reason why an applicant should not fly.

On the function of pilot maintenance, Dr. Herbolsheimer states while piloting aircraft cannot be classified as a strenuous physical occupation, the increasing incidence of peptic ulcers among professional pilots, amounting almost to the degree of an occupational disease, makes it impossible to draw the conclusion that continued flying induces no strain on the human organism.

In studying an analysis of a group of 300 accidents, Dr. Herbolsheimer has found that 85% of the cases show "pilot error" as the cause, with 6% mechanical failure and the remaining 9% to a combination of the two together with other miscellaneous causes.

Since it is manifestly impossible to legislate intelligence, good judgment, or common sense into the minds of men, he avers we can have recourse only to more careful selection and training of those who are to operate our aircraft of the future.

## CAA Medics Discuss Flier Examinations

The importance of determining the physical and mental fitness of the pilots who will fly our peacetime planes was discussed by three Civil Aeronautics Administration spokesmen at the Sixteenth Annual Meeting of the Aero Medical Association of the U. S. in St. Louis, Mo.

Dr. W. R. Stovall, chief of the Medical Division of the CAA, spoke on "Physical Examinations and the Private Flier." He placed emphasis on the large part private flying will take in the development of aviation. He called attention to the proposal to change the physical standard requirements under which the CAA now acts.

Dr. W. F. Smith, chief of the Physical Standards Section, took for his theme: "Impressions of a Field Examiner on Entering the Washington Office." Proneness to accident was discussed by Malcolm V. McCormick, medical analyst, Aviation Medical Division.

## Six States Endorse Flight Training For High School Aviation Students

Numerous state governments are getting under way with plans for providing aviation education and training for the nation's youth. At least six States have recommended actual flight experience be given high school aviation students and in Tennessee a program is under way offering scholarships to teachers in State high schools.

Four hours flight experience for high school aviation students has been recommended by the State Department of Education of Wisconsin, Illinois, Colorado, California, Connecticut and Pennsylvania. Each of these States has developed a comprehensive State plan for aviation education up through high school and some also have included junior college and college programs.

The Civil Aeronautics Administration has cooperated with the respective State Departments of Education in the development of all these State plans. The State Aeronautics Commission was co-sponsor of the conference which formulated the Pennsylvania plan.

**Programs Vary**—The recommended aviation education programs vary considerably from State to State. Colorado recommends a separate course in social aviation for junior high schools, dealing with the political, economic, and social implications of the "Air Age." California has a junior college program. Both Pennsylvania and Connecticut favor an elective aviation science course for junior and senior boys and girls in high schools, with prerequisites and leveled to their abilities. Illinois is planning aviation-centered industrial arts and vocational courses. The Wisconsin plan, the first to be completed, emphasizes the objectives of a proposed high school aviation course and the relationships of the proposed laboratory flight experience to this course.

**Four Hours of Flying**—Some of the principles upon which all State plans thus far completed agree are introduction of appropriate aviation materials into all regular courses of study at all grade levels; regular aviation courses, both in senior high schools and in colleges, to be continued and developed as permanent parts of the postwar program in science education; four hours of flight experience for all high school aviation students, conceived as laboratory work in aviation, to be organized to insure safety in every detail under full insurance and liability protection for all parties concerned; complete State and local responsibility for making aviation education an integral part of the State and local educational systems.

Inquiries regarding these plans may be directed to the respective State Departments of Education or to the CAA, Reference A-6, Department of Commerce Building, Washington 25, D. C.

**Training for Teachers**—Tennessee is the first State to prepare its elementary and high school teachers especially for the job of teaching aviation.

Under the direction of the Tennessee Bureau of Aeronautics, 280 teachers in State high schools, and some teachers in training at normal colleges, will be given scholarships which include 192 hours of classroom study in aeronautical subjects, 12 hours of ground school instruction in the fundamentals of flying and 10 hours of dual instruction in piloting. Hailed by Gov. Prentice Cooper as one of the most valuable of his aviation bureau's activities, the plan is being received enthusiastically by the normal schools and colleges of the State, and prospects are that it will be extended still further. The Bureau, according to W. Percy McDonald, its chairman, is particularly in-

terested in training teachers now employed in high schools.

Flight instructions are not intended to make pilots out of the teachers who receive the scholarships, but to familiarize them with the operation of airplanes, and awaken and crystallize their interests in the general subject. Instructions include taxiing, straight and level flight, turns, climbs, glides, coordination exercises, stalls, spins, primary emergency landing procedure, takeoffs and landings and a three-hour cross-country flight. Trainees may go on to solo and obtain pilot's certificates as they desire, but the course given by the Bureau does not include this.

Money for conducting the Bureau's enterprises comes from gas tax collected on aviation fuel which is given for aviation education and training.

### Conference

(Continued from page 113)

#### III. Multilateral Aviation

1. Formulation of principles to be followed in: (a) Drawing up a new multilateral convention on air navigation and related subjects. (b) Establishing such permanent international aeronautical body as may be agreed on, and determining the extent of its jurisdiction.

2. Arrangement for and selection of a Committee on Multilateral Convention and International Body to serve during transitional period and to draw up definitive proposals for submission to the interested governments.

#### IV. Interim Council

Consideration of establishment of Interim Council to serve during a transitional period which might supervise the work of other committees functioning during this period; and performing such other functions as the conference may determine.

1. Recommendations concerning locale, composition, and scope of Interim Council.

2. Length of transitional period, mechanism for converting recommendations of Interim Council and its committees into permanent arrangements, and other arrangements covering the transitional period.

Invitations to the Conference, extended by the State Department, went out early in September to the United and Association Nations and neutrals.

Those invited are:

Afghanistan; Australia; Belgium; Bolivia; Brazil; Canada; Chile; China; Colombia; Costa Rica; Cuba; Czechoslovakia; Dominican Republic; Ecuador; Egypt; El Salvador; Ethiopia.

French Delegation; Great Britain; Greece; Guatemala; Haiti; Honduras; Iceland; India; Iran; Iraq; Ireland; Lebanon; Liberia; Luxembourg; Mexico; Netherlands.

New Zealand; Nicaragua; Norway; Panama; Paraguay; Peru; Philippines; Poland; Portugal; Saudi Arabia; Spain; Sweden; Switzerland; Syria; Turkey; Union of South Africa; U. S. S. Republics; Uruguay; Venezuela; Yugoslavia.

The Danish and Thai (Siam) Ministers in Washington have been invited in their personal capacities.

# Sixteen Air Crashes Bring Death To Thirteen and Injury to Sixteen

A midair collision of two planes near Hudson, Ohio, resulting in the death of four persons, was caused, the Board report says, by "failure of the occupants of both planes to exercise proper vigilance".

**Crash in Midair**—The planes collided, according to witnesses, about 500 feet above the ground. One was occupied by Joseph Andrew Smith with 856 solo hours, and Student Norman Zidar, and the other by Instructor Robert Nelson and Student Myron D. Spencer.

Pilot Robert F. Snelling, Allentown, Pa., and Student Pilot Janette Yoder, East Orange, N. J., were killed in a crash near Strafford, Mo.

**Flew to the Limit**—The plane took off from East St. Louis, Ill., for Springfield, Mo., 200 miles distant, with gas sufficient for 3 hours of safe flying. The actual flying time was 4 hours and 15 minutes. The maximum expectation of flying time for the amount of fuel carried is 4 hours and 20 minutes. The probable cause of the accident is given as "a stall while the pilot was attempting an emergency landing due to exhaustion of fuel."

Instructor Amos Travis Stowe and his student, Ruben C. Marshall, Jr., were killed in a crash near Sky Harbor Airport, Phoenix, Ariz. Stowe, with about 1,343 hours, attempted to fly out of a ground fog.

**Lack of Alertness Blamed**—"Undoubtedly greater alertness on his part would have prevented his being caught in such a situation," investigators report.

Attempting to get out of low-hanging clouds caused the accident near the Racine, Wis., Airport resulting in the death of Student Pilot Allen James Dunham. Investigation revealed Pilot Dunham apparently lost control of his ship in attempting to get out of a cloud bank.

"Poor judgment" is given as the cause of the accident near the Tahoe-Douglas Airport, Gardnerville, Nev., in which Instructor Charles Fredric Dornberger was killed and his student, Yuba Ethelyn Kidwell, sustained serious injuries. The immediate cause of the accident is given as flying at a dangerously low altitude.

**Crashes Flying Blind**—Attempting to fly blind in instrument weather Pilot Clarence E. Dufort of Malone, N. Y., was killed when his plane crashed near Saranac.

Faulty judgment in flying into an overcast when he had the alternative of changing course is given as a contributing cause of the accident.

Student Pilot Nelson Kratz Derstein, Hatfield, Pa., was killed in an accident near Lederach, Pa., which investigators attributed to reckless low flying.

**Held Back by Flaps**—An attempt to climb at a very sharp angle with full flaps caused the death of Clarence Ricker Van Arsdale and the serious injury of Pilot Frank Kaufmann and Marie Estes in an accident near the Middlesboro, Ky., Airport. Kaufmann took off with his flaps at 30 degrees down in a plane carrying within 20 pounds of its load limit.

Within 44 minutes of completing his War Training Service course John Law Woodland went on an aerial sightseeing tour when he should have been carrying out orders to practice maneuvers and crashed. He not only sustained serious injuries but was eliminated from the training course.

The accident occurred near the Safford, Ariz., Airport.

**Dangerously Low**—Maneuvering at a dangerously low altitude is given as the cause of an accident at Crosswell, Mich., which resulted in serious injury to Student Pilot Steve Buck Nadjkovic and his passenger Harry Lewis Shumate. The ship stalled less than 100 feet above the ground.

Miss Larue B. Baker walked into the propeller of an airplane at the San Antonio, Tex., Airport and was seriously hurt. Charles Dibrall Fator, pilot, "failed to exercise due caution while his passenger was deplaning," investigators reported.

**Hits Mountain**—Flying from terrain about 5,000 feet above sea level near Spearfish, S. Dak., Pilot Charles David Ice crashed into the side of a mountain sustaining serious injuries. His wife, who accompanied him, escaped with minor hurts. Ice said he was caught in turbulent air at an altitude too low to permit escape.

**Stalls at Take-off**—This is given as cause for an accident near Bardstown, Ky. Pilot Robert O. Sollman escaped with slight hurts but his passenger Robert A. Morris was seriously injured.

Recklessness in taking off "cross traffic and downwind" caused the accident at Vogel Airport, La Salle, Ill., in which Pilot Lester J. Lindenmier was badly hurt and his passenger Francis B. Smith sustained minor injuries.

**Learning the "Hard Way"**—"I have learned the hard way it is nonsensical to fly too low," said Pilot Victor A. Mulligan, a physician. His plane stalled so low he could not make recovery near Langdon, N. Dak. and crashed. Dr. Mulligan was not badly hurt but his passenger, Otto Krohn, was seriously injured.

Lack of alertness caused serious injury to Instructor William Richey Henwood and his student, Reuben Charles Cary, in an accident near the Steffen Airport, East Amherst, N. Y. Simulating an emergency landing with Cary at the controls, the plane was about 50 feet from the ground when it hit a tree which had not been observed.

## War Pilot Sends Thanks To CAA for Air Training

Given his first "boost" toward the pilot's seat of a Flying Fortress by the Civil Aeronautics Administration, Lieut. Gordon L. Doss has written a letter of thanks for the schooling he received under the Civilian Pilot Training program.

His letter addressed to A. Harold Bromley, superintendent of War Training Service, now being liquidated, at Santa Monica, Calif., reads in part:

"I send thanks to you fellows at home who first gave me a start in aviation. I received CPT from the Modoc Adult High School at Alturas in the spring of 1942 and I am so happy to state that the first boost has helped a great deal.

"I have now flown over half my missions in a Liberator and have just recently changed to the Flying Fortress.

"Again I say, thanks."



The CAA Journal, through its Question and Answer Column, will be glad to reply to queries from readers. Address them to Editor, CAA Journal, Reference A250, Civil Aeronautics Administration, Washington 25, D. C. Any publication may use the Question and Answer Column, in part or in its entirety. A credit to the Civil Aeronautics Administration will be appreciated.

**Q**—Is it necessary to file an altitude as part of a contact flight plan when flying a civil airway at night? **A. J.**

**A**—No.

**Q**—Where and under what conditions may I buy one of the airplanes which are being disposed of by the Civil Aeronautics Administration? **W. K. and W. S. S.**

**A**—They will be offered to the highest bidders at some 30 places—a list of which appeared in the Civil Aeronautics Journal of Sept. 15. They may be inspected before purchase and bids must be accompanied by certified checks for ten percent of the bid. The planes, as sold, will be capable of flight but unless bearing CAA certification as airworthy they must be examined and passed by a CAA inspector before an Airworthiness Certificate will be issued. The purchaser, however, will be permitted to fly his plane to a designated destination. Should this happen to be outside the United States an export permit must be obtained from the Aviation Division of the Department of State.

**Q**—How many aircraft pilots held private certificates and how many commercial as of August 1? **J. H. H.**

**A**—At the beginning of the 1945 fiscal year, July 1, there were 21,795 holders of commercial pilot certificates and 104,821 private certificate holders. These figures are preliminary and subject to change and those covering the month of July are not now available.

**Q**—I am a private flier. I am given to understand that aeronautical charts are available to the general public. If that is true where may I obtain one? **P. B. A.**

**A**—Aeronautical charts are available to certified pilots and others if it is in the public interest that they have such charts. A list of authorized agents appears on page 119 of this issue.

**Q**—I have a chance to buy a small plane with two-way radio. Are there enough facilities or fields I can use to justify the extra cost of two-way radio? **H. H.**

**A**—At present there are over 400 radio ranges available for navigation and more than 690 airports roughly one-quarter of all airports) equipped to assist owners of two-way radio.

**Q**—What does NC on airplanes mean? **T. J. F.**

**A**—This combination is a symbol, bearing no relation to the letters themselves as part of our language. It means the craft is of United States register, airworthy and eligible for commercial use.

**Q**—I am an experienced aviation mechanic. May I make repairs on my plane? **J. H. F.**

**A**—To make repairs, both engine and structure, on your plane, you must have valid aircraft and aircraft engine mechanic's certificates.



# List of Agents Handling Aeronautical Charts

Subject to certain restrictions, which can be explained by the dealer, pilots according to the nature of their flying activity can purchase charts which do not embrace vital defense areas. The following list is correct as of September 26, 1944.

## REGION I

### Connecticut

Aviation Service Company, Inc., P. O. Box 32, Brainard Field, Hartford, Conn.

### Delaware

Atlantic Aviation Service, P. O. Box 1952, Wilmington, Del.

### Maine

Portland Flying Service, Inc., Municipal Airport, Pittsfield, Maine.  
Airways, Incorporated, Waterville Municipal Airport, Waterville, Maine.

### Maryland

Weems System of Navigation, Annapolis, Md.  
Stevens Flying Service, Stevens Airport, R. F. D. No. 3, Frederick, Md.  
Hensen Flying Service, Hagerstown Airport, Hagerstown, Md.

### Massachusetts

Inter-City Aviation, Inc., Airport, Groton, Mass.  
Britt's Airways, Groton Airport, Groton, Mass.  
Jennings Bros. Air Service, P. O. Box 306, Grafton Airport, North Grafton, Mass.  
E. W. Wiggins Airways, Inc., Metropolitan Airport, Norwood, Mass.

### New Hampshire

William E. Martin Flying Service, Concord Municipal Airport, Concord, N. H.

### New Jersey

Otto Aviation Corporation, 256 Liberty Street, Bloomfield, N. J.  
Air Associates, Inc., Teterboro, N. J.

### New York

O'Connor Aircraft Company, Albany Airport, Albany, N. Y.  
Buffalo Aeronautical Corporation, Buffalo Airport, Buffalo, N. Y.  
Tri-Cities Aviation School, Inc., Tri-Cities Airport, Endicott, N. Y.  
Reid School of Aeronautics, Inc., Fulton, N. Y.  
Cape Aircraft, Incorporated, Glens Falls Airport, Glens Falls, N. Y.  
Ithaca Flying Service, Municipal Airport, Ithaca, N. Y.  
Airport Manager, 54 Court Street, Municipal Airport, Rochester, N. Y.  
Rochester Aeronautical Corporation, Rochester Airport, Rochester, N. Y.  
Haven Flying School, Schenectady County Airport, Schenectady, N. Y.

### Pennsylvania

Altoona Aviation Corporation, 2501-03 Union Avenue, Altoona, Pa.  
Lehigh Aircraft Company, Allentown-Bethlehem Airport, Allentown, Pa.  
Wings Field, Incorporated, Stenton Avenue, Above Butler Pike, Ambler, Pa.  
Aircraft Services Consolidated, Bloomsburg Airport, Bloomsburg, Pa.  
Scranton Airways, Incorporated, Scranton Airport, Clarks Summit, Pa.  
Port Erie Corporation, Port Erie Airport, Erie, Pa.  
Piper Aircraft Corporation, Lock Haven, Pa.  
Graham Aviation Flying School, Port Meadville Airport, Meadville, Pa.  
Taylor Aviation, New Kingstown, Pa.  
J. L. Smith Company, 1603 Samson Street, Philadelphia 3, Pa.  
Becker Aircraft Sales Company, Bettis Airport, Pittsburgh 22, Pa.  
Bob Turner Aero Supply, Municipal Airport, Pittsburgh, Pa.  
Reading Aviation Service, Reading Municipal Airport, Reading, Pa.  
Oscar L. Hostetter, York Airport, Thomasville, Pa.

### Virginia

Bufo's Aviation Service, Inc., Montvale, Va.  
Everett Wadley Company, Richmond, Va.  
Virginia Air Motive, Woodrum Field, Roanoke, Va.  
Valley Airways, Incorporated, Winchester Municipal Airport, Winchester, Va.

### West Virginia

West Virginia Air Service, County Airport, Clarksburg, W. Va.  
Howard G. Mayes, Manager, Mayes Field, Huntington, W. Va.  
Parkersburg Flying Service & Aviation School, Stewart Airport, Parkersburg, W. Va.

## REGION II

### Alabama

Aero Service & Supply Company, Municipal Airport, Birmingham, Ala.

### Florida

Embry-Riddle Company, P. O. Box 668, Miami, Fla.  
Aviation Supply Corporation of Florida, P. O. Box 193, Orlando, Fla.  
Aviation Sales & Service, Municipal Airport, St. Petersburg, Fla.  
Ludwig School of Aviation, P. O. Box 954, Tampa 1, Fla.

### Georgia

Victory Airways, Griffin-Spalding Airport, Griffin, Ga.  
Aviation Supply Corporation, P. O. Box 512, Hapeville, Ga.

### Mississippi

Greenwood Flying Service, Greenwood Airport, Greenwood, Miss.  
Airport Manager, Municipal Airport, Jackson, Miss.

### North Carolina

Aviation Supply Corporation, 330 North Tryon Street, Charlotte, N. C.  
Cannon Aircraft Sales & Service, Inc., P. O. Box 291, Cannon Airport, Charlotte, N. C.  
Cannon Aviation Company, Inc., Municipal Airport, Hickory, N. C.  
Carolina Aircraft Sales, Municipal Airport, Charlotte, N. C.  
Hawthorne Flying Service, Inc., Greensboro-High Point, N. C.  
Hawthorne Flying Service, Rocky Mount, N. C.  
Piedmont Aviation, Inc., Smith Reynolds Airport, P. O. Box 1941, Winston-Salem, N. C.

### South Carolina

Hawthorne Flying Service, Municipal Airport, Columbia, S. C.  
Hawthorne Airmotive, Orangeburg, S. C.

### Tennessee

Wood Flying Service, Municipal Airport, P. O. Box 41, Alcoa, Tenn.  
Appalachian Flying Service, P. O. Box 676, Johnson City, Tenn.  
Southern Air Services, Inc., Municipal Airport, Memphis, Tenn.  
Aviation Supply Corporation of Tennessee, 905 Church Street, Nashville, Tenn.

## REGION III

### Illinois

Air Associates, Inc., 5300 West 63rd Street, Municipal Airport, Chicago, Ill.  
Snyder Aircraft Corporation, 5036 West 63rd Street, Chicago, Ill.  
Lombard Airport Company, Inc., York Township Airport, Lombard, Ill.  
United Supply Company, Moline Airport, Moline, Ill.  
Turgeon Flying Service, Sky Harbor Airport, Northbrook, Ill.  
Machesney Airport, North Second Street Road, Rockford, Ill.  
Springfield Aviation Company, Municipal Airport, Springfield, Ill.

### Indiana

Mid-West Air Transport, Inc., Evansville Airport, Evansville, Ind.  
Inter City Flying Service, Inc., Smith Municipal Airport, Fort Wayne, Ind.  
Roscoe Turner Aero Corporation, Municipal Airport, Indianapolis 44, Ind.  
Purdue Aeronautics Corporation, The Purdue University Airport, Lafayette, Ind.  
Muncie Aviation Corporation, Airport Two Miles North of City, Muncie, Ind.  
Indiana Air Service, Inc., Bendix Field, South Bend, Ind.

### Kentucky

Lexington Flying Service, Inc., Municipal Airport, Lexington, Ky.  
Louisville Flying Service, Inc., Bowman Field, Louisville, Ky.

### Michigan

General Aircraft Supply Corporation, Detroit City Airport, Detroit, Mich.  
Hartung Aircraft Corporation, P. O. Box 27, Harper Station, Detroit, Mich.  
Wayne County Flying Service, Inc., Krist-Port Airport, Orchard Lake Road, Farmington, Mich.  
Central Air Service, Grand Rapids Airport,

Grand Rapids, Mich.

Northern Air Service, Kent County Airport, Grand Rapids, Mich.

Hughes Flying Service, P. O. Box 247, Capital City Airport, Lansing, Mich.

Wayne County Flying Service, R. F. D. No. 4, Plymouth, Mich.

## Minnesota

Mankato Aero Service, Mankato, Minn.  
Van Dusen Aircraft Supplies, Inc., 1612 Harmon Place, Minneapolis, Minn.  
Van's Air Service, St. Cloud Municipal Airport, St. Cloud, Minn.

## North Dakota

Dakota Skyways, Hector Airport, Fargo, N. D.

## Ohio

Akron Airways, Inc., Municipal Airport, Akron, Ohio.  
Horn's Flying Service, Inc., Chagrin Falls Airport, Chagrin Falls, Ohio.  
Cincinnati Aircraft Service, Lunken Airport, Cincinnati, Ohio.  
Cleveland Flying Service, Cleveland Municipal Airport, Cleveland, Ohio.  
Sundorff Aeronautical Corporation, Cleveland Airport, Cleveland, Ohio.  
Northway Flying Service, Norton Field, Columbus, Ohio.  
Snyder Aircraft Corporation, Sullivant Avenue Airport, Columbus, Ohio.  
Dahio Aerosales, Incorporated, P. O. Box 864, Dahio Airport, Dayton, Ohio.  
Lima School of Aeronautics, Municipal Airport, Lima, Ohio.  
Harrington Air Service, Municipal Airport, Mansfield, Ohio.  
Tuscarawas County Aviation, Inc., Municipal Airport, New Philadelphia, Ohio.  
Springfield Airport, Inc., Springfield, Ohio.  
Moore Flying Service, Dayton Municipal Airport, Vandalia, Ohio.  
Metcalf Flying Service, P. O. Box 25, Walbridge, Ohio.  
Youngstown Airways, Incorporated, Youngstown Municipal Airport, Youngstown, Ohio.

## Wisconsin

Midwest Airways, Incorporated, P. O. Box 147, Cudahy, Wis.  
Four Lakes Aviation Corporation, Royal Airport, Madison, Wis.  
Morey Airplane Company, Morey Airport, Middleton, Wis.  
Fliteways, Incorporated, P. O. Box 1808, Milwaukee 1, Wis.  
Racine Flying Service, Incorporated, Horlick-Racine Airport, Racine, Wis.

## REGION IV

### Arkansas

Jonesboro Flying Service, P. O. Box 781, Jonesboro, Ark.  
Central Flying Service, Inc., Little Rock, Ark.

### Louisiana

Louisiana Aircraft Sales Company, Baton Rouge, La.  
Chapman Air Service, New Orleans Airport, New Orleans, La.

### New Mexico

Cutter-Carr Flying Service, West Mesa Airport, Albuquerque, N. Mex.  
Rible's Flying Service, Municipal Airport, Las Vegas, N. Mex.

### Oklahoma

Northern Oklahoma Flying Service, Municipal Airport, Blackwell, Okla.  
Regan Flying Service, Shawnee, Okla.  
Spartan Aircraft, Tulsa, Okla.

### Texas

C. H. Knapp, Manager, English Field, Amarillo, Tex.  
Browning Aerial Service, P. O. Box 1173, Austin, Tex.  
Ragsdale Flying Service, Route 1, P. O. Box 370, Austin, Tex.  
Air Associates, Inc., 3200 Love Field, Dallas, Tex.  
Dallas Aviation School, Love Field, Dallas 9, Tex.  
Aircraft Sales Company, Meacham Field, Fort Worth, Tex.  
Ritchey Flying Service, Meacham Field, Fort Worth, Tex.  
J. D. Reed Company, Municipal Airport, Houston, Tex.  
Sam Houston Airport, Route 3, P. O. Box 158, Houston, Tex.  
Clent Breedlove Aerial Service, Commercial Airport, Lubbock, Tex.  
United Aero Corporation, P. O. Box 222, San Antonio 6, Tex.  
W. B. Matthews Company, Aircraft Division, Municipal Airport, San Antonio, Tex.  
Wichita Falls Air Transport Company, P. O. Box 809, Wichita Falls, Tex.

(See Charts, page 121)

# DOMESTIC AIR CARRIER STATISTICS

## Operations for August 1944

Operator and routes	Revenue miles flown	Revenue passengers carried <sup>1</sup>	Revenue passenger miles flown	Express carried (pounds)	Express pound-miles flown	Passenger seat-miles flown	Revenue passenger load factor (percent)
All American Aviation, Inc., Pittsburgh-Huntington, Jamestown, Williamsport, Harrisburg, Washington..... <b>Total</b>	<b>118,646</b>	<b>0</b>	<b>0</b>	<b>18,070</b>	<b>2,752,975</b>	<b>0</b>	<b>-</b>
American Airlines, Inc. .... <b>Total</b>	<b>3,297,417</b>	<b>96,980</b>	<b>57,532,652</b>	<b>2,327,291</b>	<b>1,060,002,734</b>	<b>62,010,638</b>	<b>92.78</b>
Dallas-Los Angeles.....	1,041,009	21,320	19,108,513	174,119	182,416,187	19,786,724	96.57
New York-Chicago.....	474,272	21,698	8,059,486	853,012	398,907,215	8,585,084	93.87
Boston-New York.....	236,433	24,379	4,288,530	475,055	72,088,716	4,789,666	89.54
Syracuse-Cleveland.....	31,990	2,809	450,229	98,306	18,597,049	653,642	68.88
Cleveland-Nashville.....	62,434	5,172	1,210,430	90,900	24,143,792	1,311,994	92.26
New York-Fort Worth.....	916,523	26,575	15,367,935	390,238	251,035,203	16,699,250	92.03
Washington-Chicago.....	172,421	7,326	3,022,643	169,214	65,905,784	3,266,822	92.53
Chicago-Fort Worth.....	174,950	7,170	3,248,890	49,167	27,068,704	3,599,704	90.25
Buffalo-Toronto.....	4,500	1,198	91,048	3,062	232,712	95,077	95.76
El Paso or Fort Worth-Mexico City.....	182,825	3,272	2,684,948	24,168	19,607,372	3,222,105	83.33
Braniff Airways, Inc. .... <b>Total</b>	<b>491,035</b>	<b>21,851</b>	<b>9,178,505</b>	<b>113,639</b>	<b>52,729,244</b>	<b>9,948,529</b>	<b>92.26</b>
Chicago-Dallas.....	295,298	10,358	5,508,566	75,231	45,364,972	5,884,207	93.62
Denver-Brownsville.....	174,551	11,821	3,323,294	36,040	8,968,665	3,683,679	91.46
San Antonio-Laredo.....	21,186	2,057	346,645	2,368	395,607	430,643	80.49
Chicago & Southern Air Lines, Inc. .... <b>Total</b>	<b>293,126</b>	<b>10,726</b>	<b>5,368,068</b>	<b>102,523</b>	<b>44,216,919</b>	<b>6,133,602</b>	<b>87.52</b>
Chicago-New Orleans.....	225,686	9,439	4,247,532	83,341	36,113,695	4,722,649	89.94
Memphis-Houston.....	67,440	3,004	1,120,536	19,182	8,103,224	1,410,953	79.42
Continental Air Lines, Inc. .... <b>Total</b>	<b>235,118</b>	<b>7,083</b>	<b>2,544,612</b>	<b>19,988</b>	<b>8,305,949</b>	<b>2,738,949</b>	<b>92.90</b>
Denver-El Paso-San Antonio.....	164,340	4,987	1,744,545	15,003	6,038,268	1,907,397	91.46
Denver-Tulsa.....	35,278	1,824	418,915	1,925	562,370	432,454	96.87
Denver-Kansas City.....	35,520	821	381,132	3,060	1,705,311	399,098	95.50
Delta Air Corporation..... <b>Total</b>	<b>320,949</b>	<b>15,728</b>	<b>6,204,277</b>	<b>86,944</b>	<b>29,832,902</b>	<b>6,702,507</b>	<b>92.57</b>
Charleston or Savannah-Fort Worth.....	274,522	12,987	5,262,957	45,571	18,401,640	4,722,649	91.84
Atlanta-Cincinnati.....	46,427	2,930	941,320	41,373	11,431,262	971,738	96.87
Eastern Air Lines, Inc. .... <b>Total</b>	<b>1,576,612</b>	<b>43,757</b>	<b>23,486,883</b>	<b>772,336</b>	<b>379,756,808</b>	<b>27,020,363</b>	<b>86.92</b>
New York-San Antonio or Brownsville.....	374,925	17,057	9,418,651	247,513	148,339,315	10,393,024	88.91
New York-Miami.....	600,097	17,302	8,329,775	239,645	124,639,905	10,090,926	82.55
Chicago-Jacksonville.....	267,319	8,062	3,467,457	234,014	81,532,083	3,679,092	94.25
Atlanta-Tampa.....	41,519	2,015	717,909	4,873	2,595,764	868,957	82.62
Washington-St. Louis.....	92,752	3,313	1,553,091	46,271	22,649,741	1,788,364	86.84
Inland Air Lines, Inc. .... <b>Total</b>	<b>126,416</b>	<b>2,549</b>	<b>802,094</b>	<b>5,525</b>	<b>1,254,263</b>	<b>1,007,176</b>	<b>79.64</b>
Denver-Great Falls.....	93,972	2,549	802,094	5,390	1,214,022	1,007,176	79.64
Cheyenne-Huron.....	32,444	0	0	135	40,241	0	-
Mid-Continent Airlines, Inc. .... <b>Total</b>	<b>197,918</b>	<b>7,048</b>	<b>2,108,583</b>	<b>29,333</b>	<b>7,665,710</b>	<b>2,471,093</b>	<b>85.33</b>
Minneapolis-Tulsa.....	146,027	5,320	1,557,773	24,493	6,422,030	1,814,988	85.83
Minneapolis-Des Moines-St. Louis or Kansas City.....	51,891	1,826	550,810	4,840	1,243,680	566,105	83.95
National Airlines, Inc. .... <b>Total</b>	<b>267,625</b>	<b>9,615</b>	<b>3,262,388</b>	<b>28,003</b>	<b>8,889,767</b>	<b>3,716,900</b>	<b>87.77</b>
Jacksonville-Key West via Miami.....	135,594	6,624	1,548,510	13,362	3,296,795	1,891,692	81.86
Jacksonville-New Orleans.....	132,031	4,506	1,713,878	14,641	5,592,972	1,825,208	93.90
Northeast Airlines, Inc., Boston-Presque Isle and Moncton..... <b>Total</b>	<b>97,818</b>	<b>6,737</b>	<b>1,671,475</b>	<b>12,018</b>	<b>2,202,271</b>	<b>2,045,442</b>	<b>81.72</b>
Northwest Airlines, Inc. .... <b>Total</b>	<b>749,949</b>	<b>19,017</b>	<b>13,142,603</b>	<b>195,726</b>	<b>110,031,595</b>	<b>14,890,492</b>	<b>87.73</b>
Chicago-Twin Cities-Seattle; Fargo-Winnipeg.....	741,885	19,017	13,142,603	195,473	109,995,163	14,980,492	87.73
Minneapolis-Duluth.....	8,064	0	0	253	36,432	0	-
Pennsylvania-Central Airlines Corporation..... <b>Total</b>	<b>586,964</b>	<b>50,275</b>	<b>10,624,226</b>	<b>590,374</b>	<b>117,267,841</b>	<b>12,241,628</b>	<b>86.79</b>
Norfolk-Detroit.....	406,758	38,172	7,574,402	432,932	79,397,988	8,471,228	89.41
Detroit-Milwaukee or Chicago.....	88,636	9,605	1,591,826	108,330	19,880,046	1,859,508	85.00
Pittsburgh-Buffalo.....	13,516	1,365	261,216	7,848	1,290,982	283,836	92.03
Pittsburgh-Birmingham.....	78,054	3,507	1,196,782	41,264	16,689,825	1,627,056	73.55
Transcontinental & Western Air, Inc. .... <b>Total</b>	<b>2,157,416</b>	<b>41,159</b>	<b>37,676,562</b>	<b>1,378,731</b>	<b>726,886,520</b>	<b>39,398,600</b>	<b>95.63</b>
New York-Los Angeles.....	1,440,533	34,747	25,399,365	778,788	494,860,502	26,509,379	95.81
Dayton-Chicago.....	52,840	3,631	867,647	95,799	21,577,263	948,311	91.49
Boulder City-San Francisco.....	121,870	5,636	2,409,202	40,017	17,549,016	2,443,499	98.00
Kansas City-Pittsburgh via Chicago.....	423,236	12,569	6,923,287	344,612	172,082,804	7,123,700	97.19
St. Louis-Detroit via Cincinnati and Dayton.....	68,493	5,170	1,149,965	98,291	15,278,561	1,370,557	83.90
Washington-Dayton via Columbus.....	50,444	2,799	927,096	21,224	5,538,674	1,003,154	92.42
United Air Lines, Inc. .... <b>Total</b>	<b>2,760,842</b>	<b>63,011</b>	<b>45,020,396</b>	<b>984,925</b>	<b>726,502,056</b>	<b>46,198,961</b>	<b>97.45</b>
New York-San Francisco.....	2,095,004	32,627	31,816,742	787,755	632,489,741	32,669,620	97.39
Salt Lake City-Seattle.....	150,810	5,134	3,028,801	56,808	36,506,995	3,161,234	95.81
Seattle-San Diego.....	426,123	20,877	8,409,801	108,900	45,745,461	8,537,138	98.51
Seattle-Vancouver.....	15,616	2,377	312,374	2,376	298,735	324,313	96.32
Washington-Toledo.....	73,289	1,996	1,452,678	29,086	11,461,124	1,506,656	96.42
Western Air Lines, Inc. .... <b>Total</b>	<b>277,203</b>	<b>11,994</b>	<b>5,487,629</b>	<b>64,844</b>	<b>28,322,074</b>	<b>5,739,512</b>	<b>95.61</b>
San Diego-Salt Lake City.....	170,917	6,884	3,429,847	51,093	28,860,278	3,508,553	97.76
Salt Lake City-Great Falls.....	31,248	1,525	608,784	2,600	827,030	676,287	90.02
Great Falls-Lethbridge.....	10,230	813	117,122	747	111,226	214,304	54.05
Los Angeles-San Francisco.....	64,808	3,631	1,331,876	10,404	3,517,540	1,340,368	99.37
<b>Total</b> .....	<b>13,555,054</b>	<b>407,530</b>	<b>224,110,953</b>	<b>6,730,270</b>	<b>3,306,619,628</b>	<b>242,354,392</b>	<b>92.43</b>
Colonial Airlines, Inc., New York-Montreal..... <b>Total</b>	<b>123,508</b>	<b>7,071</b>	<b>2,172,190</b>	<b>24,213</b>	<b>7,284,442</b>	<b>2,571,870</b>	<b>84.46</b>
Hawaiian Airlines, Ltd., Honolulu-Hilo and Port Allen..... <b>Total</b>	<b>94,784</b>	<b>11,726</b>	<b>1,703,446</b>	<b>622,459</b>	<b>96,099,824</b>	<b>1,763,040</b>	<b>96.62</b>
<b>Grand Total</b> .....	<b>13,773,346</b>	<b>426,327</b>	<b>227,986,589</b>	<b>7,376,942</b>	<b>3,410,003,894</b>	<b>246,689,302</b>	<b>92.42</b>

<sup>1</sup>The total passengers carried for each airline is an unduplicated figure with the exception of United whose unduplicated figure was not available.

All Am  
Amerie  
Braniff  
Chicaz  
Conti  
Delta  
Eastor  
Inland  
Mid-Co  
Nation  
North  
Northw  
Pennsylv  
Transco  
United  
Western

Colonial  
Hawaii

All Am  
Amerie  
Braniff  
Chicaz  
Conti  
Delta A  
Eastern  
Inland  
Mid-Co  
Nation  
North  
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United  
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Pre

A. I.  
Colo.  
Snyde  
Denver  
Puebl  
Colo.

Iowa  
Moines  
Beau  
Union  
Grah  
Station

P-T  
port, H  
Toneka  
Harte  
Wichita

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# Operations for the first 8 months of 1944 compared with the same period of 1943

Operator	Revenue miles flown January-August		Revenue passengers carried <sup>1</sup> (unduplicated) January-August		Revenue passenger miles flown January-August	
	1944	1943	1944	1943	1944	1943
All American Aviation, Inc.	770,457	682,793	0	0	0	0
American Airlines, Inc.	21,102,658	17,350,817	576,999	528,405	349,844,216	288,777,475
Braniff Airways, Inc.	3,156,667	2,540,023	131,126	98,029	55,702,718	41,657,051
Chicago & Southern Air Lines, Inc.	1,609,324	1,439,088	60,710	53,728	28,232,152	22,999,111
Continental Air Lines, Inc.	1,466,459	1,013,510	41,299	30,969	14,295,098	9,404,811
Delta Air Corporation	2,048,773	1,396,073	98,075	66,894	38,949,973	20,045,174
Eastern Air Lines, Inc.	10,517,808	8,765,689	283,006	241,924	100,176,804	141,732,909
Inland Air Lines, Inc.	731,989	558,219	12,504	7,734	4,032,566	2,558,912
Mid-Continent Airlines, Inc.	1,452,522	838,920	47,282	19,918	13,591,469	5,508,969
National Airlines, Inc.	1,969,432	1,131,290	71,921	38,742	23,693,387	13,517,777
Northeast Airlines, Inc.	657,939	440,396	34,187	22,523	8,329,595	5,572,148
Northwest Airlines, Inc.	4,262,677	2,643,332	102,402	55,006	69,010,941	35,915,153
Pennsylvania-Central Airlines Corporation	2,963,569	1,926,433	235,251	145,985	51,832,169	32,454,364
Transcontinental & Western Air, Inc.	13,488,822	10,400,991	246,828	211,094	215,307,811	151,928,198
United Air Lines, Inc.	18,438,087	13,975,198	346,987	276,530	288,787,086	25,758,914
Western Air Lines, Inc.	1,839,091	1,274,206	70,649	47,435	33,619,281	20,043,536
Total	86,476,274	66,416,979	2,359,316	1,848,871	1,355,402,619	1,024,005,259
Index (1943=100)	130.20	100.00	127.61	100.00	132.36	100.00
Colonial Airlines, Inc.	604,548	441,832	33,735	23,645	10,426,486	6,903,020
Hawaiian Airlines, Ltd.	620,007	619,167	72,443	71,721	10,371,701	7,615,785
Grand Total	87,780,829	67,477,978	2,465,494	1,947,187	1,376,200,706	1,038,524,064
Index (1943=100)	129.77	100.00	126.62	100.00	132.52	100.00

Operator	Express carried (pounds) January-August		Express pound miles flown January-August		Passenger seat miles flown January-August		Revenue passenger load factor (percent) January-August	
	1944	1943	1944	1943	1944	1943	1944	1943
All American Aviation, Inc.	86,580	94,624	12,765,646	12,824,741	0	0	—	—
American Airlines, Inc.	14,025,825	13,329,197	6,472,189,829	6,299,051,302	388,517,178	330,560,235	90.05	87.36
Braniff Airways, Inc.	754,706	624,693	346,359,651	460,115,138	60,707,216	45,524,533	91.76	91.50
Chicago & Southern Air Lines, Inc.	660,425	544,204	269,556,934	242,553,650	33,044,739	27,604,284	85.44	82.23
Continental Air Lines, Inc.	119,334	78,775	48,547,927	27,403,699	16,516,044	11,333,723	86.55	86.47
Delta Air Corporation	596,554	378,139	219,038,486	145,968,312	42,453,808	29,252,643	91.75	89.04
Eastern Air Lines, Inc.	3,420,604	2,872,652	2,125,620,616	1,785,584,254	184,006,137	163,587,683	86.77	86.64
Inland Air Lines, Inc.	26,604	18,161	5,300,826	4,356,227	5,671,450	3,961,206	71.10	64.60
Mid-Continent Airlines, Inc.	151,068	99,098	40,113,419	22,944,558	17,901,959	8,868,330	75.54	62.12
National Airlines, Inc.	273,447	213,925	93,530,374	56,284,194	27,130,780	15,757,864	87.33	86.00
Northeast Airlines, Inc.	79,068	60,455	15,499,550	12,832,033	13,713,296	9,240,563	60.69	60.30
Northwest Airlines, Inc.	1,324,833	965,910	701,629,699	644,577,877	80,770,223	43,632,054	85.46	82.31
Pennsylvania-Central Airlines Corporation	3,036,073	2,723,986	578,687,302	495,733,479	61,751,254	39,977,338	83.94	81.18
Transcontinental & Western Air, Inc.	8,503,127	6,763,767	4,458,444,336	3,955,211,838	234,774,467	171,906,220	91.71	88.38
United Air Lines, Inc.	6,806,817	6,692,037	5,143,897,816	5,146,222,159	300,324,474	248,185,008	96.16	90.96
Western Air Lines, Inc.	583,924	625,754	294,189,609	281,649,567	37,748,581	23,531,759	89.06	85.18
Total	40,448,989	36,385,437	20,825,372,020	19,592,313,008	1,505,711,603	1,172,918,443	96.02	87.30
Index (1943=100)	111.17	100.00	106.29	100.00	128.36	100.00	103.12	100.00
Colonial Airlines, Inc.	150,556	134,647	47,413,324	38,726,925	12,553,124	8,737,715	83.06	79.60
Hawaiian Airlines, Ltd.	4,733,954	3,853,389	729,963,910	614,459,853	10,981,920	11,317,376	94.44	100.00
Grand Total	45,333,499	40,373,473	21,602,749,254	20,245,499,789	1,529,246,647	1,192,973,534	89.99	87.30
Index (1943=100)	112.29	100.00	106.70	100.00	128.18	100.00	133.73	100.00

	January	February	March	April	May	June	July	August	Total
Passengers carried (unduplicated) (total revenue and non-revenue) <sup>1</sup>									
16 domestic airlines	242,683	221,011	251,445	272,273	311,829	326,878	371,672	415,031	2,413,122
Total airlines	255,001	231,809	262,347	283,899	324,275	340,961	387,674	433,965	2,419,911
Passenger miles flown (total revenue and non-revenue):									
16 domestic airlines	141,474,106	125,088,611	142,834,165	155,159,351	181,038,023	193,288,705	211,703,804	227,350,700	1,377,937,465
Total airlines	143,727,253	127,107,076	144,884,424	157,414,978	183,563,374	196,130,812	214,800,861	231,262,843	1,398,891,621

<sup>1</sup>Preliminary. Due to the delay in reporting by some companies, these figures are subject to revision in subsequent publications.

## Agents Handling Aeronautical Charts (Continued from page 119)

### REGION V

#### Colorado

A. I. D. Incorporated, 1525 Broadway, Denver, Colo.  
Snyder Aircraft Corporation, 1525 Broadway, Denver 2, Colo.  
Pueblo Air Service, Municipal Airport, Pueblo, Colo.

#### Iowa

Iowa Airplane Company, P. O. Box 59, Des Moines, Iowa  
Beacon Airmotive Equipment Company, Western Union College Airport, Le Mars, Iowa  
Graham Flying Service, P. O. Box 26, Boulevard Station, Sioux City 20, Iowa.

#### Kansas

P-T Air Service, Incorporated, Municipal Airport, Hays, Kan.  
Tonaka Flying Service, Municipal Airport, Tonaka, Kan.  
Harte Flying Service, Municipal Airport, Wichita, Kan.

#### Missouri

E. W. Wiggins Airways, Inc., Municipal Airport, Columbia, Mo.  
Kansas City Flying Service and Air College, Inc., 710 Richards Road, Municipal Airport, Kansas City 6, Mo.  
Missouri Aviation Corporation, 416 Admiral Boulevard, Kansas City, Mo.  
Ong Aircraft Corporation, Ong Airport, No. 50, Highway & Gregory Boulevard, Kansas City, Mo.  
Supply Division, Inc., Lambert Airport, Robertson, Mo.  
Springfield Flying Service, Inc., Municipal Airport, Springfield, Mo.

#### Nebraska

Lincoln Airplane & Flying School, 2415 "O" Street, Lincoln, Nebr.  
Climb Flying Service, Municipal Airport, North Platte, Nebr.  
Central Aviation Corporation, P. O. Box 1299, Omaha 2, Nebr.  
Omaha Aircraft Company, 2525 Farnam Street, Omaha 2, Nebr.

#### South Dakota

Dakota Aviation Company, Huron, S. Dak.  
Black Hills Flying Service, Black Hills Airport, Spearfish, S. Dak.

### REGION VI

#### Arizona

Southwest Airways, Inc., Sky Harbor Airport, Phoenix, Ariz.  
Arizona Airways, Inc., P. O. Box 672 Safford, Ariz.

#### California

Pacific Airmotive, 409 North Brand Boulevard, Glendale 3, Calif.  
The A. Lietz Company, 913 South Grand Avenue, Los Angeles, Calif.  
Air Associates, Inc., Airport & Century Boulevards, Los Angeles 43, Calif.  
Pacific Airmotive, Oakland Airport, Calif.

(See Charts, page 123)

# OFFICIAL ACTIONS . . . Civil Aeronautics Board

ORDERS 3074 THROUGH 3156

## Airline Orders

### Service

No. 3075 dismisses the application of Western for a certificate. (August 19)

No. 3076 dismisses the application of Great Lakes Air Transport, Inc. for a certificate. (August 19)

No. 3077 dismisses the application of Pan-Am for amendment of a certificate. (August 19)

No. 3078 dismisses the application of Harold B. Green for a certificate in connection with the West Coast Case. (August 19)

No. 3079 dismisses the application of TWA for amendment of certificates. (August 22)

No. 3080 denies the petition of the city of Kansas City for permission to intervene in applications for certificates authorizing additional air service in Mexico, Central and South America, and the Caribbean area. (August 22)

No. 3081 grants the petition of the Greater Miami Port Authority of Miami for permission to intervene in applications for certificates authorizing additional air service in Mexico, Central and South America, and the Caribbean. (August 22)

No. 3082 denies the petition of Beech Aircraft Corp. for leave to intervene in applications for certificates. (August 22)

Nos. 3083, 3084, and 3085 respectively deny the petitions of Beech Aircraft Corp. for leave to intervene in the North Central, Rocky Mountain, and West Coast Cases. (August 22)

No. 3086 grants the petition of the City of Tulsa, Okla., for permission to intervene in the applications for certificates of Mid-Continent. (August 23)

No. 3087 consolidates the application of Western States Aviation Co. into the West Coast Case. (August 23)

No. 3088 grants the petition of the Dept. of Justice for leave to intervene in the Florida Cases. (August 23)

No. 3089 grants the petition of the U. S. Maritime Commission for permission to intervene in the applications of 7 companies for certificates. (August 25)

No. 3090 permits Northwest to inaugurate on August 20 nonstop service between Spokane, Wash., and Portland, Oreg., and between Great Falls, Mont., and Spokane. (August 25)

No. 3091 denies the petition of the city of Dallas, Tex., for leave to intervene in the applications of 8 airlines for certificates. (August 25)

No. 3092 dismisses the application of Washington Motor Coach Co., Inc. for a certificate in connection with the West Coast Case. (August 25)

No. 3093 rescinds that part of order No. 3019 which consolidated the application of Western Air into the Rocky Mountain Case; consolidates it instead into the West Coast Case.

No. 3094 permits Braniff Airways to inaugurate on September 1 nonstop service between Dallas and San Antonio, Tex. (August 26)

No. 3096 temporarily exempts Pan-Am from the conditions of Sec. 401(k) of the Civil Aeronautics Act insofar as they would prohibit the operation of through planes between Miami, Fla., and Leopoldville, Belgian Congo, via certain points; authorizes temporary suspension of service to and from the intermediate point Lagos, Nigeria. (August 28)

No. 3097 partially rescinds order No. 1761 insofar as it authorizes UAL to temporarily suspend service at Elko, Nev. (August 29)

No. 3104 denies the petition of the city of Houston, Tex., for permission to intervene in the applications of 8 airlines for certificates. (August 30)

No. 3105 denies the petition of the City of Oklahoma City, Okla., for permission to intervene in the applications of 8 airlines for certificates. (August 30)

No. 3106 consolidates and assigns for hearing the applications of Ellis Air Transport and Keitchikan Air Service for certificates. (August 26)

No. 3108 authorizes Braniff to inaugurate service at the intermediate point Austin, Tex. on Route 50. (September 7)

No. 3109 temporarily exempts Pan-Am from the provisions of Sec. 401(a) insofar as they would prevent Pan-Am from engaging in transportation to and from Moses Point, Alaska on its route between Fairbanks and Nome, Alaska. (September 1)

No. 3110 grants the petition of the Department of Interior for permission to intervene in the applications of 7 companies for certificates. (September 4)

No. 3118 permits UAL to inaugurate on September 1 nonstop service between Oakland, Calif., and

Denver, Colo. (September 6)

No. 3119 dismisses the application of R-B Freight Lines, Inc. upon their own request. (September 6)

No. 3120 dismisses the application of North Coast Transportation Co.—an applicant in the West Coast Case—upon their own request. (September 6)

No. 3123 rescinds order No. 2236 which authorized George S. Schwamm, doing business as Petersburg Air Service, to temporarily service in the Territory of Alaska (September 9)

No. 3124 permits Pan-Am to eliminate certain schedules from CAB Form 2380 insofar as they reflect activities on the Pacific Division for the account of the U. S. Navy. (September 9)

No. 3125 rescinds order No. 2121 which authorized Braniff to temporarily suspend service on Route 50. (September 9)

No. 3127 denies Pan-Am's petition for reconsideration of the Board's opinion and order (No. 3003) in the Latin-American rate case.

No. 3128 consolidates the application of American Airlines with the West Coast Case. (September 11)

No. 3130 grants the U. S. Maritime Comm. permission to intervene in applications for certificates re service in Mexico, Central and South America, and the Caribbean area. (September 13)

No. 3131 consolidates various applications proposing additional air transportation service in the State of Florida into one proceeding—the Florida Case—Docket 489 et al. (September 14)

No. 3132 rescinds order No. 1754 insofar as it authorizes EAL to temporarily suspend service between Tallahassee, Fla., and Memphis, Tenn. (September 15)

No. 3134 severs that portion of the application of Inland Air Lines, proposing service between Rapid City, S. Dak., and Sheridan, Wyo., from Docket 900, assigns it Docket 1591, and consolidates this docket into the Rocky Mountain Case. (September 14)

No. 3135 serves that portion of the application of Inland proposing service from Great Falls, Mont., to Seattle, Wash., via Spokane, from Docket 900, assigns it Docket 1592, and consolidates this docket into the West Coast Case. (September 14)

No. 3136 denies the Commonwealth of Mass. permission to intervene in applications for certificate authorizing additional air service in Mexico, Central and S. America, and the Caribbean area. (September 15)

No. 3137 dismisses the application of Vermont Transit Co., Inc. for a certificate. (September 15)

No. 3138 rescinds order No. 1810 insofar as it authorized temporary suspension of service with respect to persons between Cheyenne, Wyo., and Huron, S. Dak. (September 15)

No. 3139 notifies TWA that the national defense no longer requires delaying inauguration of service to Morgantown, W. Va. (September 15)

No. 3140 notifies National Airlines that the national defense no longer requires delaying inauguration of service on Route 31 between Jacksonville, Fla., and New York, N. Y. (September 15)

No. 3141 denies the city of Tulsa permission to intervene in applications for certificates authorizing additional service in Mexico, Central and South America, and the Caribbean area. (September 15)

No. 3142 denies petition of EAL for reconsideration of order No. 2569 granting W. R. Grace and Co. permission to intervene in the applications for certificates authorizing additional air service in Mexico, Central and South America, and the Caribbean area. (September 15)

No. 3143 dismisses application of Ryan School of Aeronautics for a certificate. (September 18)

No. 3144 rescinds order No. 2093 insofar as it authorized Northeast to temporarily suspend service between Boston, Mass., and Montreal, Canada. (September 18)

No. 3145 denies Continental's motion that the Board enter an order, supplementing order No. 2265 and amending the certificate of Braniff for route 15, so as to provide specifically that flights serving Colorado and Texas points cannot be re-routed via Oklahoma City.

No. 3149 permits EAL to inaugurate nonstop service between Evansville, Ind., and Chattanooga, Tenn. on September 15. (September 19)

No. 3150 consolidates applications of 11 companies for service between U. S. Europe, and Asia via the North Atlantic area into the North Atlantic Route Case—Docket 855 et al.; reopens the record in Docket 238 for additional testimony re issues raised by Amendment 1 to American Export Airlines' application for reconsideration of their certificate; grants the petitions of UAL, EAL, Port of New York Authority, Dept. of Justice, U. S. Lines Co., Commonwealth of Mass., City of Boston, Miami Port Authority, City of

Norfolk, and the Baltimore Aviation Commission for leave to intervene in the North Atlantic Route Case; dismisses that portion of Shawmut Air Freight and Transport Co., proposing air transportation between Boston and London, and the applications of Braniff and L. N. Ryn. (September 20)

No. 3152 rescinds order No. 1618 insofar as it authorized temporary suspension of service by Braniff between Amarillo, Tex., and Oklahoma City, Okla. (September 20)

No. 3153 serves and dismisses the applications of Aerovias Nacionales Puerto Rico, Inc., Andrew J. Burke, Gordons North South Air Lines, Inc., and New York and Bermudian Air Line from Docket No. 525 et al. (September 20)

No. 3156 severs and dismisses the application of Florida Motor Lines Corp. from the consolidated proceeding the Florida Case—Docket 489 et al. (September 22)

## Miscellaneous

No. 3126 approves an agreement between Braniff and EAL relating to the air conditioning by Braniff of Eastern's flights at Houston, Tex. (September 9)

## Airman Orders

### Revocations

No. 3100 revokes the student certificate of James Meekin, Jr. because he performed acrobatic maneuvers over the town of Huntington, Ind. (August 29)

No. 3101 revokes the student certificate of Walter C. Voyles because he performed acrobatic maneuvers over the town of New Albany, Ind. (August 29)

No. 3102 revokes the student certificate of James E. Tunnessen because he performed acrobatic maneuvers over the city of Hazleton, Pa. (August 29)

No. 3103 revokes the student certificate of Lester L. Petersen because he landed and took off from an undesignated landing area and committed other violations of the Civil Air Regulations. (August 29)

No. 3107 revokes the private certificate of Frank W. Thompson because he failed to maintain an altitude of 1,000 feet over the city of Lewistown, Me., and committed other violations of the Civil Air Regulations. (August 29)

No. 3111 revokes the commercial certificate of Robert P. Aikin because he flew less than 1,000 feet over an open air assembly of persons near Dodge Field, Grimes, Iowa, and committed other violations of the Civil Air Regulations. (September 4)

No. 3112 revokes the commercial certificate of Charles B. Moseley because he performed acrobatic maneuvers in the vicinity of Sunbury Airport, Sunbury, Pa., at less than 1500 ft. and committed other violations of the Civil Air Regulations. (September 4)

No. 3116 revokes the student certificate of Loren K. Gajewski because he carried a passenger and committed other violations of the Civil Air Regulations. (September 5)

No. 3133 amends order No. 2875 by revoking the flight instructor rating held by Lester G. Hipple and suspending his commercial certificate for 4 months beginning May 29. (September 8)

No. 3148 revokes the student certificate held by Donald O. Voge because he took off from Jamestown Airport, Jamestown, N. Dak., when there was risk of collision with other aircraft. He also committed other violations of the Civil Air Regulations. (September 8)

No. 3155 revokes the student certificate of Melvin G. Morrill's because he flew in the vicinity of Glenwood, Utah at an altitude of less than 500 ft. (September 22)

## Suspensions

No. 3095 amends order No. 2950 for the second time; by ordering that Pierce P. O'Carroll's commercial certificate be suspended for 90 days beginning September 11. (August 26)

No. 3098 suspends J. T. Skinner's student certificate for 30 days because he operated an aircraft for which there was no valid aircraft airworthiness certificate. (August 29)

No. 3099 suspends Gershon Konikow's private certificate for 6 months because he flew closer than 500 feet to another aircraft. (August 29)

No. 3113 amends a previous order—No. 2802—by suspending the student certificate of Joseph M. Miklas until September 1, 1944. (September 4)

No. 3114 suspends the private certificate of Glenn E. Miller for 6 months because he flew less than 500 feet in the vicinity of Kalona, Iowa and committed other violations of the Civil Air Regulations. (September 5)

No. 3115 suspends the student certificate of

Orlin L. Worrell for 6 months because he carried a passenger and committed other violations of the Civil Air Regulations. (September 5)

No. 3122 suspends for 90 days the private certificate of Jonas Weiland because he carried a passenger when the dual controls were operative and committed other violations of the Civil Air Regulations. (September 8)

No. 3129 suspends Clarence Ramey's mechanic certificate with aircraft engine rating because he signed a logbook entry for a major overhaul although he was not present during the time the work was performed. (September 13)

No. 3146 suspends James E. Miller's student certificate for 6 months because he gave flying instructions and committed other violations of the Civil Air Regulations. (September 19)

No. 3147 suspends Jimmie E. Skinner's private certificate for 6 months because he kept an inaccurate logbook. (September 19)

No. 3151 amends 2 previous orders by terminating the suspension date of Ray D. Johnson's private certificate as of September 5. (September 15)

No. 3154 suspends Robert M. Garmon's mechanic certificate for 60 days because he signed a 100-hour periodic inspection report approving an aircraft as airworthy when it was not. (September 22)

### Miscellaneous

No. 3074 denies the request of M. B. Freeburg that the age requirement of section 20.100 of the Civil Air Regulations be waived so that his son who is 14 may be issued a student certificate. (August 18)

No. 3117 dismisses the petition of Herman A. Brumjen for reconsideration of the Administrator's denial of his application for a student certificate. (September 5)

No. 3121 dismisses the Administrator's complaint which alleged that Katherine Sui Fun Cheung "lacks a good moral character".

## Regulations

Reg. 320.....Effective Aug. 26, 1944

Amendment No. 4 of Section 238.1 of the Economic regulations—Applications for certificates of public convenience and necessity.

Section 238.1 (d) of the Economic Regulations is hereby amended by adding to the second paragraph thereof the following:

"Similarly, requests for authority to engage in scheduled air transportation and requests for authority to engage in non-scheduled air transportation shall not be included in the same application."

Reg. 321.....Effective Sept. 1, 1944

Any first pilot listed in Braniff Airways, Inc., air carrier operating certificate on September 1, 1944, as qualified to operate aircraft in scheduled air transportation between Dallas and Corpus Christi via Houston, and Dallas and Corpus Christi via Austin will be deemed competent to pilot aircraft in scheduled air transportation between Houston, Tex., and Austin, Tex., via red civil airway No. 32 upon completion of 2 one-way trips accompanied by a company check pilot.

Amdt. 04-2.....Effective Sept. 15, 1944

§ 04.5827 of the Civil Air Regulations (*Position Lights*) is amended by striking the words "with one unit above the other."

Amdt. 20-2.....Effective Aug. 12, 1944

20.73 Periodic physical examination. \* \* \* \*

(b) In lieu of the physical examination, evidence that the pilot is on pilot status solo in the Army, Navy, Marine Corps, or Coast Guard will be accepted as proof of physical fitness while on active duty in such service.

Amdt. 40-3.....Effective Sept. 18, 1944

§ 40.2 of the Civil Air Regulations (*Passenger Minimum Requirements*) is amended by striking paragraph (c).

Amdt. 61-2.....Effective Sept. 18, 1944

61.7202 Control test. The pilot shall test the flight controls to the full limit of travel immediately prior to the take-off run.

## Airport Fire Manual

The staff of CAA's Washington National Airport has issued a "Fire Manual" for use of all personnel at the field. It gives them the various fire alarm signals and procedures, describes equipment, such as the crash boat, fire-crash truck, ambulance, etc., and explains how these units work.

OCTOBER 15, 1944

## AIR REGULATIONS... As of October 1, 1944

TITLE	PART No.	PRICE		DATE LATEST EDITION		NO. AMENDMENTS ISSUED	
		Part	Manual	Part	Manual	Part	Manual
<b>Aircraft</b>							
Airworthiness Certificates.....	01	\$0.05	None	10/15/42	None	2	1
Type and Production Certificates.....	02	.05	None	3/1/41	None		
Airplane Airworthiness.....	04	.15	(1)	11/1/43	2/1/41	2	5
Engine Airworthiness.....	13	.05	None	8/1/41	None		
Propeller Airworthiness.....	14	.05	(1)	7/15/42	12/1/38		
Equipment Airworthiness.....	15	Free	\$0.10	4/15/44	7/1/38		
Radio Equipment Airworthiness.....	16	0.05	Free	2/13/41	2/13/41		1
Maintenance, Repair, and Alteration of Aircraft, Engines, Propellers, Instruments.....	18	.05	0.50	9/1/42	6/1/43		
<b>Airmen</b>							
Pilot certificates.....	20	.10	None	2/15/44	None	2	
Airline Pilot Rating.....	21	.05	None	10/1/42	None	3	
Lighter-than-air Pilot Certificates.....	22	.05	None	10/15/42	None		
Mechanic Certificates.....	24	.05	None	7/1/43	None		
Parachute Technician Certificates.....	25	.05	None	12/15/43	None		
Traffic Control Tower Operator Certificates.....	26	.05	None	2/1/44	None		
Aircraft Dispatcher Certificates.....	27	.05	None	10/1/43	None		
Physical Standards for Airmen.....	29	.05	None	6/1/42	None	1	
<b>Air Carriers</b>							
Air Carrier Operating Certification.....	40	.10	None	11/1/42	None	3	
<b>Air Agencies</b>							
Flying School Rating.....	50	.05	Free	11/1/40	12/40	3	2
Ground Instructor Rating.....	51	.05	None	12/15/43	None		
Repair Station Rating.....	52	.05	Free	10/1/42	2/41		
Mechanic School Rating.....	53	.05	(1)	8/1/42	5/40		
Parachute Loft Certificates and Ratings.....	54	.05	None	1/21/43	None		
<b>Air Navigation</b>							
Air Traffic Rules.....	60	.10	0.15	11/15/43	8/1/43	6	
Scheduled Air Carrier Rules.....	61	.10	None	2/1/44	None	2	
Foreign Air Carrier Regulations.....	66	.05	None	3/1/42	None		
<b>Miscellaneous</b>							
Definitions.....	98	.05	None	10/15/42	None		
<b>Regulations of the Administrator</b>							
Aircraft Registration Certificates.....	501	Free	None	3/31/43	None		
Recordation of Aircraft Ownership.....	503	Free	None	3/31/43	None		
Seizure of Aircraft.....	531	Free	None	12/8/41	None		

<sup>1</sup> Out of stock. <sup>2</sup> Special regulation No. 223.

**Note:** Those parts and manuals for which there is a price are obtained from the Superintendent of Documents, Government Printing Office, Washington 25, D. C. Remittances must be by cash or by money order, payable to the Superintendent.

## Production Approvals Issued by the CAA

CAA has given its approval for quantity production of a new monoplane in the 0-235 class, a new 14-cylinder engine, and two light plane propellers. It has inspected an N3N-3 built by the Aaval Aircraft Factory and issued it an airworthiness certificate, and has approved new models of previously certificated types of aircraft, engines, propellers and appliances as follows:

### New Types

(Number and date of approval in parenthesis)

#### Aircraft—

Call, A, 2 place closed land monoplane. Engine, Lycoming 0-235. (Type Certificate No. 758, 7-26-44).

#### Engine—

Pratt & Whitney, Twin Wasp 2SD-G (R-2000-7), 14 cyl. radial air cooled. Rating: 1350 hp at 2700 rpm and 50 in. Hg. for Take-off; 1100 hp at 2550 rpm from sea level to 7400 ft. altitude in low blower ratio and 1000 hp at 2550 rpm from 10,000 ft. to 12,400 ft. in high blower ratio. Dry weight 1570 lbs. Grade 130 fuel. (Type Certificate No. 230, 8-9-44)

#### Propellers—

Flottorp, 69, wood, 69 in. diameter, 30 in. to 56 in. pitch, 80 hp, 2700 rpm. (Type Certificate No. 802, 7-14-44)

(See Approvals, page 124)

## Charts

(Continued from page 121)

### Nevada

Nevada-Pacific Airlines, Inc., Carson City, Nev.  
Nevada Aviation, Inc., Yelland Field, Ely, Nev.

### Utah

Seagull Aviation, P. O. Box 351, Brigham City  
Thompson Flying Service, Inc., Salt Lake City  
Airport, Salt Lake City, Utah.

## REGION VII

### Montana

Lynch Flying Service, Belgrade, Mont.  
Johnson Flying Service, Hale Field, Missoula, Mont.

### Idaho

Burocker-Hicks Flying Service, Municipal Airport, Coeur d'Alene, Idaho.  
Zimmerly Air Transport, Lewiston, Idaho.

### Oregon

A. W. Whitaker, 3368 N. E. Union Avenue, Portland, Ore.

### Washington

S & M Flying Service, P. O. Box 15, Dallesport, Wash.  
Creighton Merrell, Merrell Aviation Ground School, 1413 25th Avenue, North, Seattle, Wash.  
Max Kumer Company, 915 Second Avenue, Seattle 4, Wash.  
Northwest Aircraft Distributing Company, P. O. Box 649, Vancouver, Wash.  
Martin's School of Flying, Martin Field, P. O. Box 598, Walla Walla, Wash.  
Fancher Field Airport, Wenatchee, Wash.  
Central Aircraft, P. O. Box 1364, Yakima, Wash.



# Nation's Sign Painters Start Work On Air Markers

## Cities, Towns Respond To New CAA Program

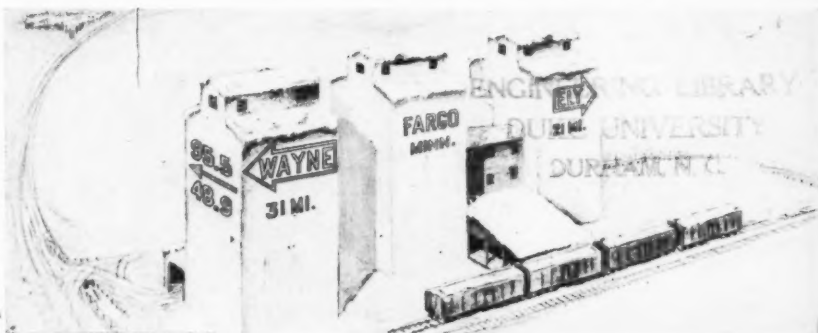
Plans for air-marking cities and towns all over the U. S., completed for some time but held for the go-ahead from the military, now will be put into operation under the direction of Blanche Nyes, CAA's air-marking specialist, Bureau of Federal Airways.

Agreeing to the recent request of the CAA that restrictions against air markers be lifted, the War and Navy Departments excepted only a 150-mile strip inland from the West Coast and Alaska.

Alabama, Nebraska and Tennessee already are installing air markers, according to Mrs. Nyes, each having a current program calling for about 300 markers. Ohio is working on 1,300 markers.

Missouri's Department of Resources and Development, working with various civic clubs, is about to start towards a goal of 250 markers. In Wisconsin the Womens National Aeronautic Association of Beloit is behind the plan.

Town names will be lettered on roofs or walls in letters 10 to 20 feet high. Latitude and longitude figures in degrees and tenths of degrees, direction symbols, and mileage figures will be painted in the most effective color to contrast with the background. Crushed rock, shrubs, and enamelled metal strips are suggested by Mrs. Nyes as suitable for markers on the ground. Markers are planned for all towns, and for other



Above is a proposed wall-marker for industrial building with 10-foot high letters.

A typical pre-war roof marker to the right

suitable spots such as highway intersections, mountainsides, and silos in open country.

The completed program will require more than 100,000 markers and will provide all pilots with valuable navigation information. Several commercial concerns, including major oil companies are cooperating in the plan.

CAA is preparing a free "How To Do It" pamphlet on air marking which soon will be available. Requests for copies should be addressed to Information and Statistics Service, CAA, Washington 25, D. C.



## Restricted Flight Zone On the Eastern Coast Narrowed to 20 Miles

The restricted zone along the east coast, from which civilian flyers are barred, has been narrowed down to an average of about 20 miles in depth. The announcement of this new ruling was made September 27 by the Interdepartmental Air Traffic Control Board.

The first zone averaged about 50 miles in depth, with one point about 160 miles from the coast. The new restricted zone is bounded by a more irregular line. The zone on the Pacific Coast which extends approximately 150 miles inland, remains the same.

Previously the IATCB had granted applications for 16 different corridors from airports within the East Coast zone to the unrestricted areas outside. All of these are now eliminated. Actually, very few airports for civilian flying are still within the restricted zone.

Repeal of all emergency flight rules, except in vital defense areas and zones of military operations has been recommended to the Civil Aeronautics Board by the CAA, and is now under consideration.

Elimination of these rules would remove the requirement that landings and take-offs be made only at designated landing areas, and the regulation that operators of such landing areas record detailed information about flights made from those fields.

Emergency flight rules were put into effect when sabotage was feared, and it was deemed imperative that proper authorities be informed as to the identity of each pilot and the location and destination of each aircraft.

## Approvals

(Continued from page 123)

Flottorp, 72, wood, 72 in. diameter, 39 in. to 57 in. pitch, 75 hp, 2650 rpm. (Type Certificate No. 802, 7-14-44)

### New Models

#### Aircraft—

Douglas, DC3C-SC3G and DC3C-SIC3G (Army C-47, C-47A), 28 to 32 place closed land monoplane. Engines, 2 Pratt & Whitney Twin Wasps SC3G or SIC3G, geared 16:9 with one 3/4" N damper. (Type Certificate No. 669, 7-10-44)

#### Engines—

Aviation Corp., Lycoming models O-235-B, O-235-BP and O-235-AP; 4 cyl. horizontal opposed aircooled, direct drive; 104 hp at 2600 rpm at sea level pressure altitude. (Type Certificate No. 223, 7-21-44)

Aviation Corp., Lycoming models O-290-AP and O-290-CP; 4 cyl. horizontal opposed air-cooled, direct drive; 125 hp at 2600 rpm at sea level pressure altitude for maximum continuous and take-off ratings for Model C O-290-AP, 125 hp at 2600 rpm for maximum, except take-off, and 130 hp at 2800 rpm for take-off for model O-290-CP. (Type Certificate No. 229, 7-21-44)

Wright, Cyclone, models 731C9G1 and 2. 9 cyl. radial air-cooled, geared 16:9, with single stage two-speed supercharger. In low blower: 1200 hp at 2500 rpm for take-off, 1100 hp at 2400 rpm up to 4000 ft. for maximum continuous ratings; in high blower: 1000 hp at 2500 rpm for take-off use between 9000 ft. and 14,000 ft. altitude, 900 hp at 2300 rpm. For maximum continuous ratings between 10,000 and 15,000 ft. altitude. (Type Certificate No. 219, 7-21-44)

#### Propeller—

G. B. Lewis Co., L23-2, L23-4, wood, 78 in. and 76 in. diameter respectively, 58 in. to 48 in. pitch, 90 hp, 2375 rpm. (Type Certificate No. 796, 7-1-44)

Sensenich, 90BA, wood, 90 in. diameter, 61 in. to 45 in. pitch, 145 hp, 2050 rpm. (Type Certificate No. 517, 8-7-44)

Sensenich, 90BAL, Same as model 90BA except left-hand rotation. (Type Certificate No. 517, 8-7-44)

Flottorp, 74KR, wood, 74 in. diameter, 60 in. to 55 in. pitch, 120 hp, 2375 rpm. (Type Certificate No. 754, 8-21-44)

Sensenich, 42K12335, wood, 90 in. diameter, 90 in. pitch, 160 hp, 1850 rpm. (Type Certificate No. 586, 8-24-44)

Sensenich, 42K12335M, wood, 86 in. diameter, 90 in. pitch, 160 hp, 1850 rpm. (Type Certificate No. 536, 8-24-44)

## Ignition of Sulphur Dust Causes Crop-duster's Death

"Ignition of sulphur dust", according to a recent CAB report, caused a fire which destroyed a crop-dusting plane and fatally burned its pilot of several thousand hours experience.

Discharge of sulphur through metallic chutes can cause sparks, which might have ignited the resulting dust clouds or, on the other hand, sulphur's ignition temperature, between 400-475° F., is low enough so that glowing sparks from the exhaust might have ignited the dust.

Sensenich, 90HASP-90M, wood, 86 in. diameter, 90 in. pitch, 160 hp, 1850 rpm. (Type Certificate No. 586, 8-24-44)

Sensenich, 42K26215, wood, 90 in. diameter, 86 in. pitch, 160 hp, 1850 rpm. (Type Certificate No. 586, 8-24-44)

Fahlin, D567-1, wood, 69 in. diameter, 52 in. to 40 in. pitch, 75 hp, 2600 rpm. (Type Certificate No. 681, 8-24-44)

#### Appliances—

Goodyear, low pressure wheels, model EHD23HBM; 19.00-23. Approved static load per wheel 27,500 lbs. (Type Certificate No. 39, 6-10-44)

Hayes, low pressure wheels, models 600MD and 601 MD; 6.00-6. Approved static load per wheel 1200 lbs. (Type Certificate No. 10, 7-10-44)

Hayes, low pressure wheels, models 602A, 602M, 602MD, 603A, 603M, 603MD, 604A, 604M, 604MD; 6.00-6. Approved static load per wheel 1200 lbs. (Type Certificate No. 10, 7-18-44)

American Airlines, safety belts, models CDC-980 and CDS-4008. Approved for one person. (Type Certificate No. 107, 8-19-44)

United Air Lines, safety belts, models 3C-611, through 3C-1033, through 3C-1036. Approved for one person. (Type Certificate No. 128, 8-2-44)

Goodyear, L. P. wheels, model L6H/MBD, 6.00-6. Approved static load per wheel 1050 lbs. (Type Certificate No. 37, 8-18-44)

#### Airworthiness Certificate Only

Naval Aircraft Factory, N3N-3, 2-place open land biplane. Engine, Wright R-760-8 (built by Naval Aircraft Factory and equivalent to Wright R-760E-T). (2-569, 8-11-44)

AL